AMENDMENTS TO THE CLAIMS

1-22. **(Canceled)**

23. **(Currently Amended)** A vector comprising ~~an Arabidopsis nucleic acid sequence encoding an amino acid sequence for an Ftn2 protein~~ SEQ ID NO:3.

24. **(Previously Presented)** The vector of Claim 23, wherein said vector further comprises a heterologous promoter.

25. **(Previously Presented)** A cell transformed with said vector of Claim 23.

26. **(Previously Presented)** The cell of Claim 25, wherein said cell is a plant cell or a microorganism cell.

27. **(Previously Presented)** A plant transformed with a heterologous gene comprising a nucleic acid sequence encoding SEQ ID NO: 2, wherein said gene encodes a product that functions in division of a photosynthetic prokaryote or a plastid.

28. **(Previously Presented)** A plant cell of said plant of Claim 27.

29. **(Previously Presented)** A plant seed of said plant of Clam 27, wherein said seed comprises said heterologous gene.

30. **(Previously Presented)** The plant of Claim 27, wherein said nucleic acid is operably linked to a heterologous promoter.

31. **(Currently Amended)** A vector comprising a nucleic acid sequence encoding an amino acid sequence~~, wherein said amino acid sequence~~ that comprises SEQ ID NO: 2.

32. **(Previously Presented)** The vector of Claim 31, wherein said vector further comprises a heterologous promoter.

33. **(Previously Presented)** A cell transformed with said vector of Claim 31.

34. **(Previously Presented)** The cell of Claim 33, wherein said cell is a plant cell or a microorganism cell.

35. **(Withdrawn)** A vector comprising a cyanobacterial nucleic acid sequence encoding an amino acid sequence for an Arabidopsis Ftn2 homolog protein.

36. **(Withdrawn)** The vector of Claim 35, wherein said vector further comprises a heterologous promoter.

37. **(Withdrawn)** A cell transformed with said vector of Claim 35.

38. **(Withdrawn)** The cell of Claim 37, wherein said cell is a plant cell or a microorganism cell.

39. **(Withdrawn)** A vector comprising an Oryza nucleic acid sequence encoding an amino acid sequence for an Arabidopsis Ftn2 homolog protein.

40. **(Withdrawn)** The vector of Claim 39, wherein said vector further comprises a heterologous promoter.

41. **(Withdrawn)** A cell transformed with said vector of Claim 39.

42. **(Withdrawn)** The cell of Claim 41, wherein said cell is a plant cell or a microorganism cell.

43. **(New)** A cell transformed with a vector comprising a nucleic acid sequence encoding an amino acid sequence that has
    (a) 20% to 60% identity to a 420-amino acid sequence at the N-terminal of SEQ ID NO:2,
    (b) 15% to 55% identity to a 110-amino acid sequence at the C-terminal of SEQ ID NO:2, and
    (c) 6% to 20% identity to the amino acid sequence between said 420-amino acid sequence and said 110-amino acid sequence,

    wherein (i) said cell comprises a plastid, and (ii) decreasing the amount of said encoded amino acid sequence in said cell results in incomplete division or no division of said plastid.

44. (New) The cell of Claim 43, wherein said cell is selected from plant cells and algal cells.

45. (New) The cell of Claim 44, wherein said cell is a plant cell.

46. (New) The cell of Claim 45, wherein said plant cell is comprised in a seed.

47. (New) The cell of Claim 43, wherein said nucleic acid sequence encoding an amino acid sequence has 20% to 60% identity to a sequence from amino acid 86 to amino acid 509 of SEQ ID NO:2.

48. (New) The cell of Claim 47, wherein said nucleic acid sequence encoding an amino acid sequence has 20% to 60% identity to a sequence from amino acid 89 to amino acid 153 of SEQ ID NO:2.

49. (New) The cell of Claim 43, wherein said nucleic acid sequence encoding an amino acid sequence has 15% to 55% identity to a sequence from amino acid 683 to amino acid 793 of SEQ ID NO:2.

50. (New) The cell of Claim 43, wherein said vector further comprises a heterologous promoter.

51. (New) A prokaryote cell transformed with a vector comprising a nucleic acid sequence encoding an amino acid sequence that has

(a) 20% to 60% identity to a 420-amino acid sequence at the N-terminal of SEQ ID NO:2,

(b) 15% to 55% identity to a 110-amino acid sequence at the C-terminal of SEQ ID NO:2, and

(c) 6% to 20% identity to the amino acid sequence between said 420-amino acid sequence and said 110-amino acid sequence,

wherein decreasing the amount of said encoded amino acid sequence in said prokaryote cell results in incomplete division or no division of said prokaryote cell.

52. (New) The prokaryote cell of Claim 51, wherein said nucleic acid sequence encoding an amino acid sequence has 20% to 60% identity to a sequence from amino acid 86 to amino acid 509 of SEQ ID NO:2.

53. (New) The prokaryote cell of Claim 52, wherein said nucleic acid sequence encoding an amino acid sequence has 20% to 60% identity to a sequence from amino acid 89 to amino acid 153 of SEQ ID NO:2.

54. (New) The prokaryote cell of Claim 51, wherein said nucleic acid sequence encoding an amino acid sequence has 15% to 55% identity to a sequence from amino acid 683 to amino acid 793 of SEQ ID NO:2.

55. (New) The prokaryote cell of Claim 51, wherein said vector further comprises a heterologous promoter.